



L-2017-190  
10 CFR § 50.73  
November 7, 2017

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555-0001

Re: Turkey Point Unit 4  
Docket No. 50-251  
Licensee Event Report: 2017-001-00  
Date of Event: September 10, 2017  
Manual Reactor Trip Due to Lowering Steam Generator Level Caused by Loss of Flow  
Regulating Valve Positioner Control

The attached Licensee Event Report 05000251/2017-001-00 is submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A) due to actuations of the reactor protection and auxiliary feedwater systems.

If there are any questions, please call Mr. Mitchell Guth at 305-246-6698.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas Summers', with a long horizontal line extending to the right.

Thomas Summers  
Regional Vice President - Southern Region  
Florida Power & Light Company

Attachment

cc: Regional Administrator, USNRC, Region II  
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant



## LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

## 1. FACILITY NAME

Turkey Point Unit 4

## 2. DOCKET NUMBER

05000 251

## 3. PAGE

1 OF 2

## 4. TITLE

Manual Reactor Trip Due to Lowering Steam Generator Level Caused by Loss of Flow Regulating Valve Positioner Control

## 5. EVENT DATE

MONTH	DAY	YEAR
9	10	2017

## 6. LER NUMBER

YEAR	SEQUENTIAL NUMBER	REV NO.
2017	001	00

## 7. REPORT DATE

MONTH	DAY	YEAR
11	7	2017

## 8. OTHER FACILITIES INVOLVED

FACILITY NAME	DOCKET NUMBER
	05000
FACILITY NAME	DOCKET NUMBER
	05000

## 9. OPERATING MODE

1

## 11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)
	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A

## 12. LICENSEE CONTACT FOR THIS LER

## LICENSEE CONTACT

Paul F. Czaya

## TELEPHONE NUMBER (Include Area Code)

(305) 247-7150

## 13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

## 14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

## 15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On September 10, 2017 at approximately 1855 hours, the Turkey Point Unit 4 reactor was manually tripped from 88% power due to lowering level in Steam Generator (SG) C. The reactor was stabilized in Mode 3. Auxiliary Feed Water actuated as expected on low level in SG C and was secured at approximately 1933 hours. At the time of the event, the Turkey Point site was experiencing high winds with rain associated with Hurricane Irma. The B and C Main Feedwater Regulating Valves (MFRV) had been in manual control when the C MFRV failed closed. The cause of the event was a degraded signal due to water intrusion into the C MFRV valve positioner hand selector switch enclosure resulting from a less than adequate design and installation. Corrective actions include modifications to the Unit 3 and 4 MFRV hand selector switch enclosures and enclosure penetrations, and repair of a failed component associated with the 4C MFRV. Additionally, the terminal/pull box specifications will be revised to improve direction for installation activities. Safety significance is very low because the unit responded as designed to the trip.



## LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

(See NUREG-1022, R.3 for instruction and guidance for completing this form  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
Turkey Point Unit 4	05000-251	YEAR	SEQUENTIAL NUMBER	REV NO.
		2017	001	00

### NARRATIVE

#### DESCRIPTION OF THE EVENT

On September 10, 2017 at approximately 1855 hours, the Turkey Point Unit 4 reactor [AC, RCT] was manually tripped from 88% power due to lowering level in Steam Generator [SB, SG] C. The reactor was stabilized in Mode 3. Auxiliary Feed Water (AFW) [BA] actuated as expected on low level in SG C and was secured at approximately 1933 hours. At the time of the event, the Turkey Point site was experiencing high winds with rain associated with Hurricane Irma.

The Reactor Protection System (RPS) [JC], and AFW actuations were reported in accordance with 10 CFR 50.72 in Event Notification 52960 and are also reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A).

#### CAUSE OF THE EVENT

The direct cause of the event was a degraded signal due to water intrusion into the 4C Main Feedwater Regulating Valve (MFRV) [SJ, FCV] positioner hand selector switch enclosure. The root cause was a latent weakness in the installation of the enclosure. A contributing cause was a less than adequate design change that installed the enclosures.

#### ANALYSIS OF THE EVENT

The event was initiated by failure of the 4C MFRV. At the time of the event, level in the 4B and 4C SGs was being controlled manually due to positioner issues. The operator controlling SG levels noticed the 4C SG level was not responding as expected to controller inputs. The 4C SG level continued to lower even though the 4C MFRV and its associated bypass valve both were demanded full open. The reactor operator manually tripped the reactor as briefed at the 20% level in the 4C SG. Troubleshooting identified water intrusion in the 4B and 4C MFRV positioner selector switches (PSS). During troubleshooting, the 4C MFRV PSS was found to have a broken wire weakened by corrosion. The wire appears to have broken when a cover was removed during the troubleshooting.

#### ANALYSIS OF SAFETY SIGNIFICANCE

Safety significance is very low because the unit responded as designed to the trip.

#### CORRECTIVE ACTIONS

Corrective actions are contained in Condition Report 2224218 and include:

1. Modifications were completed on the Unit 3 and 4 MFRV hand selector switch enclosures and enclosure penetrations. The broken wire associated with the 4C MFRV was repaired. Other enclosures in safety significant systems were also included in the scope of work.
2. The terminal/pull box specifications will be revised to improve direction for installation of enclosures needing protection from water intrusion.

ADDITIONAL INFORMATION: EISS Codes are shown in the format [IEEE system identifier, component function identifier, second component function identifier (if appropriate)].

FAILED COMPONENTS IDENTIFIED: None

PREVIOUS SIMILAR EVENTS: None